

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 4-14 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the Amendments and Remarks as set forth herein below.

ALLOWABLE SUBJECT MATTER

Applicant thanks the Examiner for indicating claims 7, 8 and 10-12 would be allowable if rewritten in independent form.

CLAIM FOR PRIORITY

It is gratefully acknowledged that the Examiner has recognized the Applicants claim for foreign priority. Because the Applicants' claim for foreign priority has been perfected, no additional action is required from the Applicant at this time.

DRAWINGS

It is gratefully acknowledged that the Examiner has approved the Formal Drawings submitted by the Applicant. The drawings comply with the requirements of the USPTO. No further action is necessary.

ACKNOWLEDGEMENT OF INFORMATION DISCLOSURE STATEMENT

The Examiner has acknowledged the Information Disclosure Statement filed on July 1, 2004. An initialed copy of the PTO-1449 has been received from the Examiner. No further action is necessary at this time.

REJECTION UNDER 35 USC 102 and 103

Dependent claim 4 has been rewritten in independent form and to include subject matter similar to that as recited in claims 1-3. Claims 1-3 have been cancelled. Claim 4 has also been amended to clarify that the blade faces of the blades diagonally intersect the radial lines from the central shaft at an angle of 30-45 degrees so as to repeatedly collide the air or water flows with the blades. Accordingly, comments will be presented distinguishing independent claim 4 over the rejection of claim 4 under 35 U.S.C. § 103(a) as unpatentable over Kaare et al. in view of Valsamidis and Gaston.

In more detail, amended independent claim 4 includes a combination of elements and is directed to a vertical shaft driving device including four rotary blades arranged in a circumferential direction of a central shaft and capable of orbital motion integrally with said central shaft, and a line extended from a blade face of each rotary blade intersects a blade face of an adjacent rotary blade at a right angle. Also included is a cylinder section, in which a rotor having said central shaft and said rotary blades can be rotated, and a fixed vane section being provided to enclose said cylinder section. Further,

the fixed vane section has a plurality of guide vanes, which are arranged in the circumferential direction at regular intervals so as to straighten air or water flows and introduce them to said rotary blades. The vertical shaft driving device also includes a plurality of arms, which are radially extended from the central shaft at regular angular intervals, in which the arms are rotated together with the central shaft. In addition, the blade faces of the blades diagonally intersect the radial lines from the central shaft at an angle of 30-45 degrees so as to repeatedly collide the air or water flows with the blades.

The features regarding the angle of 30-45 degrees so as to repeatedly collide the air or water flows with the blades is supported at least by page 16, the second full paragraph of the substitute specification.

On the contrary, Kaare et al. merely discloses rotary blades, whose directions can be changed, and Gaston discloses rotary blades attached to a supporting arm. However, in these references, air or water streams do not repeatedly collide with the rotary blades as recited in independent claim 4. In addition, the blade angle in Valsamidis is about 20°, which differs from the claimed angle of the present invention. With the blade angle of about 20°, air streams collide once with the blades when air streams enter the windmill and collide again when the air streams exit out of the windmill. Namely, the air streams collide with the blades only twice. On the contrary, because the blade angle of the present invention is 30-45°, the air or water flows which have entered the rotary blades are repeatedly collided with the blades.

Accordingly, it is respectfully submitted independent claim 4 and each of the claims depending therefrom are allowable.

CONCLUSION

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination.

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but to merely show the state of the art, no comment need be made with respect thereto.

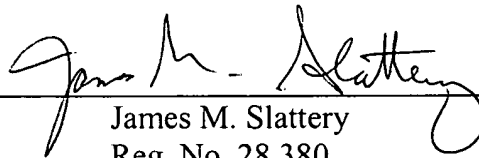
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone David A. Bilodeau at (703) 205-8072 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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